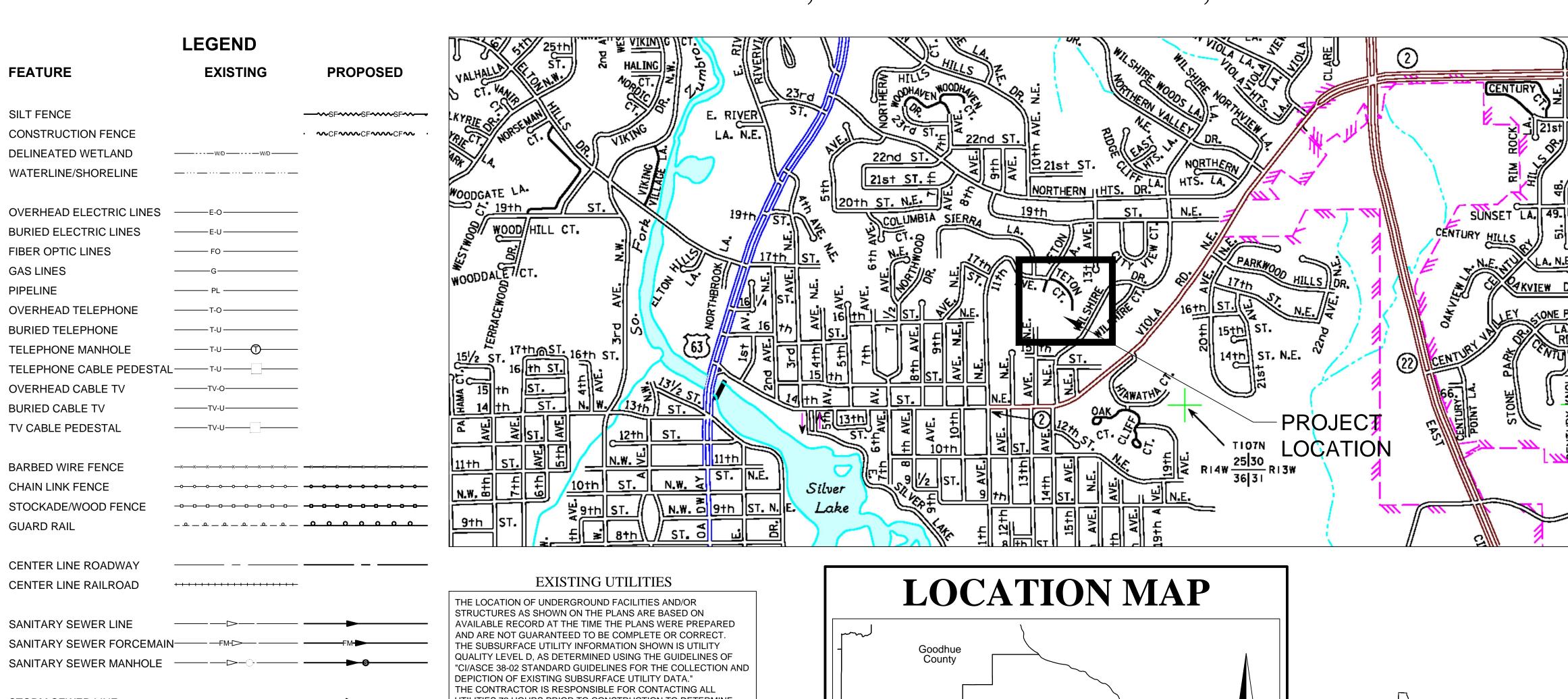
CITY OF ROCHESTER TETON COURT POND REHAB

ROCHESTER, OLMSTEAD COUNTY, MINNESOTA



SHEET INDEX			
SHEET NO.	SHEET DESCRIPTION		
1	TITLE SHEET		
2	SCHEDULE OF ESTIMATED QUANTITIES		
3	DETAILS & TYPICAL SECTIONS		
4	TRM DETAILS		
5	OVERFLOW DETAILS		
6	TEMPORARY EROSION CONTROL		
7	REMOVALS		
8	GRADING & STRUCTURE PLAN		
9	PERMANENT EROSION CONTROL		
THIS PLAN SET CONTAINS 9 SHEETS			

GOVERNING SPECIFICATIONS

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING FIELD MANUAL FOR TEMPORARY CONTROL ZONE LAYOUTS.

CITY APPROVAL DATE RICHARD FREESE PUBLIC WORKS DIRECTOR DATE MATT CRAWFORD PROJECT MANAGER

CLIENT

CITY OF ROCHESTER 201 4TH STREET S. E. ROCHESTER, MN

ENGINEER

EMMONS & OLIVIER RESOURCES, INC. 651 HALE AVENUE NORTH OAKDALE, MINNESOTA 55128-7534 TELEPHONE: (651) 770-8448 FAX: (651) 770-2552 eorinc.com

THE LAWS OF THE STATE OF MINNESOTA GREGORY D. 🖋R DATE: 10-30-2018 LICENSE # 43873 DATE **REVISION**

HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER

10-30-2013 JRH EOR PROJECT NO.

00214-0005

Dodge County

w a t e r Oakdale, MN 55128 ecology Tele: 651.770.8448 community www.eorinc.com

Wabasha

County

County

PROJECT LOCATION

Winona[\]

County

CITY OF ROCHESTER 201 4TH STREET S. E. ROCHESTER, MN

ROCHESTER, OLMSTEAD COUNTY, MINNESOTA

CITY PROJECT NO. 2010-027 (J6606)

TITLE

SHEET 01 OF 09 SHEETS

STORM SEWER LINE STORM SEWER CULVERT STORM SEWER FORCEMAIN STORM SEWER MANHOLE WATERMAIN WATERMAIN MANHOLE HYDRANT

WATER VALVE

UTILITIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE THE EXACT LOCATION OF ALL FACILITIES AND TO PROVIDE ADEQUATE PROTECTION OF SAID UTILITIES DURING THE COURSE OF WORK.

CONSTRUCTION NOTE

CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN OPERATION OF EXISTING UTILITIES THROUGHOUT THE DURATION OF THE PROJECT. IN THE EVENT THAT AN INTERRUPTION OF SERVICE IS UNAVOIDABLE IN ORDER TO COMPLETE THE WORK, CONTRACTOR SHALL PROVIDE ADEQUATE NOTIFICATION TO ALL AFFECTED BUSINESSES A MINIMUM OF 3 WORKING DAYS IN ADVANCE OF ANY INTERRUPTION.

GOPHER STATE ONE-CALL

IT IS THE LAW THAT ANYONE EXCAVATING AT ANY SITE MUST NOTIFY GOPHER STATE ONE CALL (GSOC) SO THAT UNDERGROUND ELECTRIC, NATURAL GAS, TELEPHONE OR OTHER UTILITY LINES CAN BE MARKED ON OR NEAR YOUR PROPERTY BEFORE ANY DIGGING BEGINS. A 48-HOUR NOTICE, NOT INCLUDING WEEKENDS, IS REQUIRED. CALLS CAN BE MADE TO GSOC AT 1-800-252-1166 OR (651)454-0002, MONDAY THROUGH FRIDAY (EXCEPT HOLIDAYS) FROM 7 A.M. TO 5 P.M.

PROJECT LOCATION

Fillmore County SUBMISSION DATE: DESIGN BY DRAWN BY

Emmons & Olivier Resources, Inc. 651 Hale Avenue North

NO SCALE

Houston

County

TETON COURT POND REHAB

STATE PROJECT NO. --

STATEMENT OF ESTIMATED QUANTITIES

Item No.	Description	Units	Quantity
2021.501/90010	MOBILIZATION	EACH	1
2563.601/00010	TRAFFIC CONTROL	LS	1
2573.530/00010	INLET PROTECTION	EACH	7
2573.502/00011	SILT FENCE, HEAVY DUTY, MAINTAINED	LF	400
2573.602/00020	ROCK CONSTRUCTION ENTRANCE	EACH	1
2573.540/00020	FILTER LOG-TYPE WOOD FIBER BIOROLL	LF	210
2575.502/00150	SEED MIXTURE – 150 TEMPORARY	LBS	100
2575.523/00012	EROSION CONTROL BLANKET- CATEGORY 1	SY	120
2575.561/00060	HYDRAULIC SOIL STABILIZER - TYPE 6	LBS	1000
2104.509/00014	REMOVE DRAINAGE STRUCTURE	EACH	2
2101.511/00010	CLEARING & GRUBBING	LS	1
2105.503/00010	COMMON EXCAVATION (P)	CY	200
2105.609/00130	EXCAVATION SPECIAL 1	TON	510
2105.609/00122	HAUL & DISPOSE OF CONTAMINATED SOIL (CAT 3)	TON	168
2105.609/00122	HAUL & DISPOSE OF CONTAMINATED SOIL (CAT 2)	TON	342
2506.602/00081	CONSTRUCT DRAINAGE STRUCTURE SPECIAL 1	EACH	1
2506.602/00082	CONSTRUCT DRAINAGE STRUCTURE SPECIAL 2	EACH	1
2575.525/00040	EROSION STABILIZATION MAT, CLASS 4	SY	1135
2575.502/01510	SEED MIXTURE SPECIAL 1 (STATE MIX 33-262)	LBS	42
2575.561/00080	HYDRAULIC SOIL STABILIZER - TYPE 8	LBS	2000
2575.623/00010	HYDROSEEDING – PERMANENT EROSION CONTROL	MGAL	3.2
2575.623/00010	HYDROSEEDING – TEMPORARY EROSION CONTROL	MGAL	2.1
2573.540/00030	FILTER LOG- TYPE COMPOST LOG	LF	210
2571.507/00050	PERRENIAL	PLT	1410
2575.555/00010	EXTENDED VEGETATION MANAGEMENT	LS	3

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SUBMISSION DATE: 10-30-2013 DESIGN BY DRAWN BY

EOR PROJECT NO. 00214-0005

Emmons & Olivier Resources, Inc. 651 Hale Avenue North w a t e r Oakdale, MN 55128 ecology Tele: 651.770.8448 community www.eorinc.com

CITY OF ROCHESTER 201 4TH STREET S. E. ROCHESTER, MN

TETON COURT POND REHAB.

ROCHESTER, OLMSTEAD COUNTY, MINNESOTA

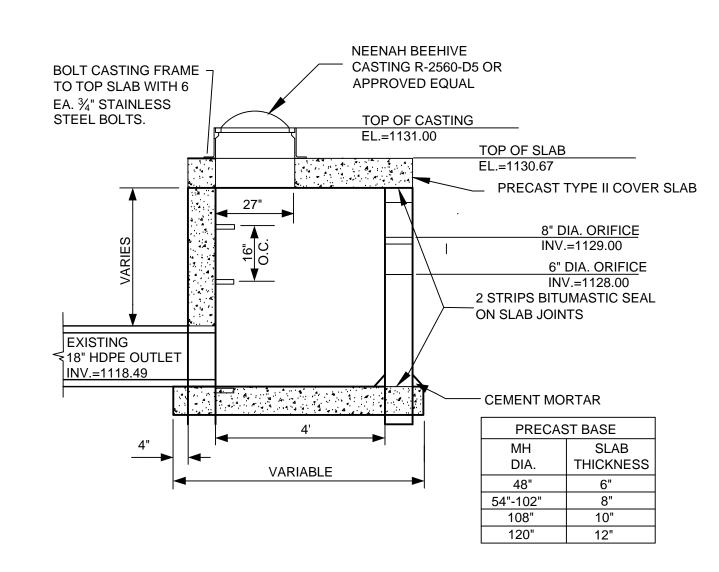
STATE PROJECT NO. ---

CITY PROJECT NO. 2010-027 (J6606)

SEQ

SHEET 02 OF 09 SHEETS

TOP VIEW



NOTES: NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR

CAST IRON FRAME & GRATE CASTINGS TYPE R-2560-B5 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE EASILY ACCESSIBLE.

PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT.

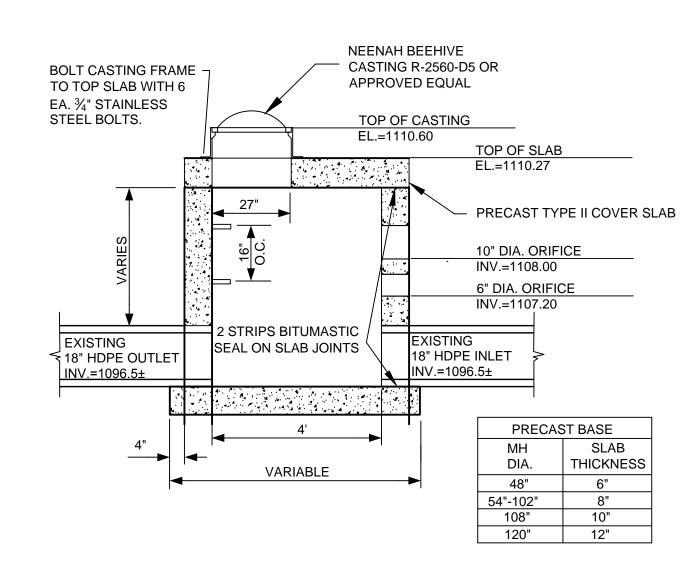
FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

> DS SPECIAL 1 (NO SCALE)

18" HDPE OUTLET 10" DIA. ORIFICE INV.=1107.80 INV.=1096.24

TOP VIEW



NOTES: NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

> CAST IRON FRAME & GRATE CASTINGS TYPE R-2560-D5 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

> MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE EASILY ACCESSIBLE.

PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478.

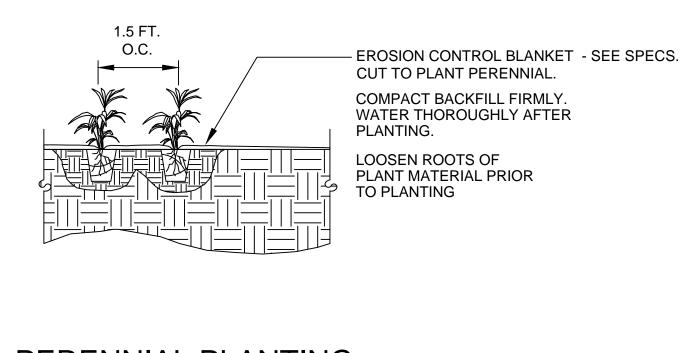
PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT.

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

DS SPECIAL 2

(NO SCALE)



1 PERENNIAL PLANTING

HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. GREGORY D. &RAS DATE: 10-30-2018 LICENSE # 43873

Emmons & Olivier Resources, Inc. 651 Hale Avenue North

10-30-2013

00214-0005

JRH

CITY OF ROCHESTER 201 4TH STREET S. E. ROCHESTER, MN

TETON COURT POND REHAB

STATE PROJECT NO. ---

ROCHESTER, OLMSTEAD COUNTY, MINNESOTA

CITY PROJECT NO. 2010-027 (J6606)

STRUCTURE DETAILS

SHEET 03 OF 09 SHEETS

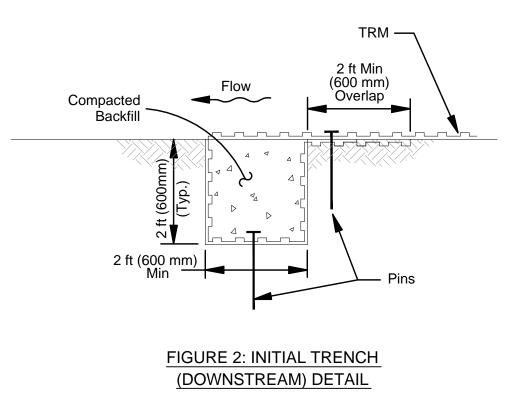
4 DATE REVISION

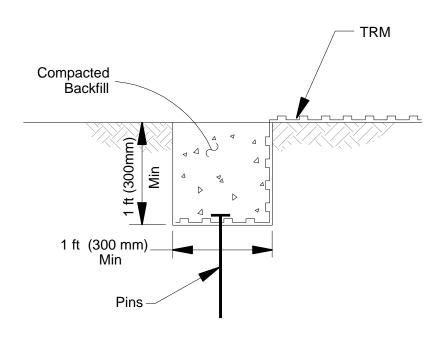
SUBMISSION DATE: DESIGN BY DRAWN BY GG EOR PROJECT NO.

w a t e r Oakdale, MN 55128 ecology Tele: 651.770.8448 community www.eorinc.com

FIGURE 1: OVERVIEW OF

TRM IN CHANNEL





TRM IN SWALE

PRE-CONSTRUCTION

SITE PREPARATION

SEEDING

direct contact with soil surface.

Disturbed areas shall be reseeded.

INSTALLATION IN STORM WATER CHANNELS

channels that have the potential for scour.

Unroll mat in the upstream direction over the compacted trench.

minimum over crest of slope.

and approved by Engineer.

the Pin Pattern Guide (see Figure 6).

on 12 in (300 mm) centers.

sharp turns are allowed on the mat.

GROUND PINNING DEVICES

SOIL FILLING

required in channels that have the potential for scour.

plans and/or specifications for tie down device details.

Avoid any traffic over the mat if loose or wet soil conditions exist.

• Irrigate as necessary to establish/maintain vegetation. Do not over irrigate.

Figure 5).

by the contractor with at least two weeks notice.

Do not mulch areas where mat is to be placed.

Prepare seedbed by loosening the top 2-3 in (50-75 mm) minimum of soil.

Consult project plans and/or specifications for seed types and application rates.

Figure 1 shows general installation layout and details for TRM in storm water swales.

Secure initial trench lap with pinning devices on 12 in (300 mm) centers (see Figure 2).

Continue installation as described above, overlapping adjacent rolls as follows:

of ground pinning devices on 12 in (300 mm) centers (see Figure 4).

Secure longitudinal edge trench with pinning devices on 12 in (300 mm) centers (see Figure 3).

• A pre-construction meeting should be held with the construction team. This meeting shall be scheduled

Grade and compact area of TRM installation as directed and approved by Engineer. Subgrade shall be

Apply 25% of specified seed to soil surface with type 6 hydraulic soil stabilizer before installing mat.

• Excavate an initial trench 24 in wide x 24 in deep (600 x 600 mm) minimum across the channel at

downstream end of project (see Figure 2). Deeper initial trench and/or hard armoring may be required in

• Excavate a longitudinal edge trench 12 in wide x 12 in deep (300 x 300 mm) minimum along both sides

of the installation to bury edges of mat (see Figure 3). The trench shall be located 24 in (600 mm)

• Beginning at the centerline of the channel, place roll end into the initial trench (with 24 in (600 mm)

minimum lap) and secure with pinning devices on 12 in (300 mm) centers (see Figure 2). Position

adjacent rolls and secure in trench in same manner. Backfill and compact soil into trench as directed

A. Roll edge overlap: 6 in (150 mm) minimum overlap with upslope mat on top. Secure with one row

B. Roll end overlap: 12 in (300 mm) minimum overlap with upstream mat on top. Secure with two

rows of ground pinning devices staggered 12 in (300 mm) apart on 12 in (300 mm) centers (see

Secure mat using suggested ground pinning devices for appropriate frequency and pattern shown on

• For channel reaches longer than 45 ft (13.7 m), install simulated check slots per Figure 7. This method

includes placing two staggered rows of pins on 4 in (100 mm) centers at 30 ft (9.1 m) intervals (see

• Excavate terminal trench 24 in wide x 24 in deep (600 x 600 mm) minimum across the channel at the

pinning devices should be spaced on 12 in (300 mm) centers (see Figure 8). Unroll mat in downstream direction over compacted trench with a minimum 24 in (600 mm) lap. Secure lap with pinning devices

• Metal pins should be at least 0.20 in (5 mm) diameter steel with a 1 1/2 in (38 mm) steel washer at the head of the pin (see Figure 9). Metal pins should be driven flush to the soil surface. Pins should be between 6-24 in (150-600 mm) long and have sufficient ground penetration to resist pullout. Longer pins may be required for looser soils. Heavier metal stakes may be required in rocky soils. Depending

on soil pH and design life of the pin, galvanized or stainless steel pins may be required. Consult project

• If equipment must operate on the mat, make sure it is of the rubber-tired type. No tracked equipment or

Installed TRM shall be re-seeded with remaining 75% seed and type 8 hydraulic soil stabilizer.

upstream end of the project (see Figure 8). Deeper terminal trench and/or hard armoring may be

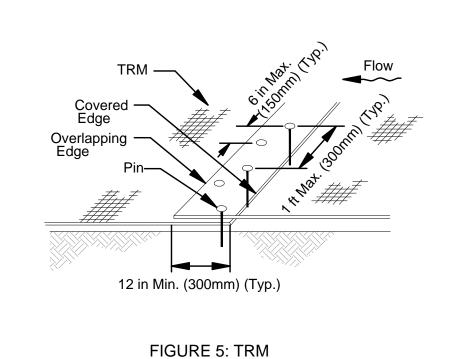
• Pin, backfill and compact upstream end of mat in terminal trench (see Figure 8). Terminal trench

Figure 7) or across the midpoint of the channel for channel lengths less than 60 ft (18.2 m).

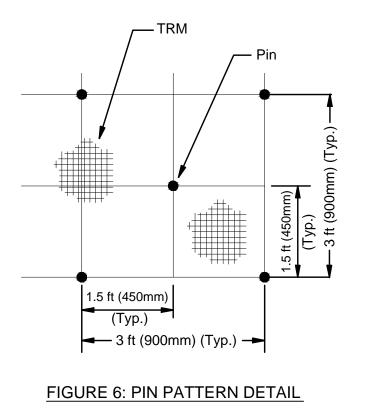
uniform and smooth. Remove all rocks, clods, vegetation or other objects so the installed mat will have

FIGURE 3: LONGITUDINAL EDGE TRENCH DETAIL

- Pyramat® HPTRM Top of Side Slope 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Overlaping Edge*



OVERLAP AT ROLL END DETAIL

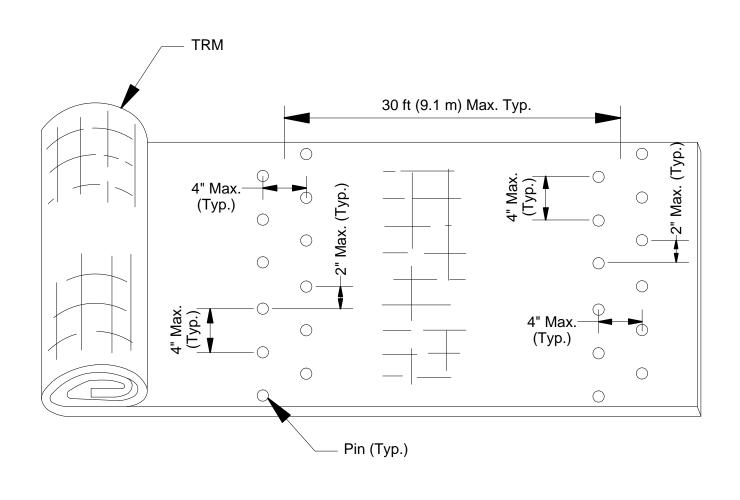


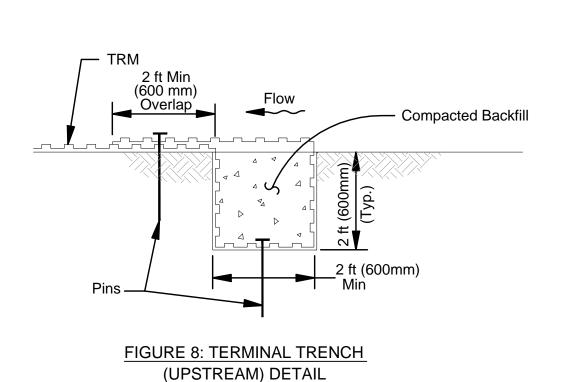
*Note: TRM Edge Shingle/Overlap placement depends on down slope direction (i.e Shingle in the direction of the down slope)

FIGURE 4:

OVERLAP AT ROLL EDGE DETAIL

Bottom of Side Slope





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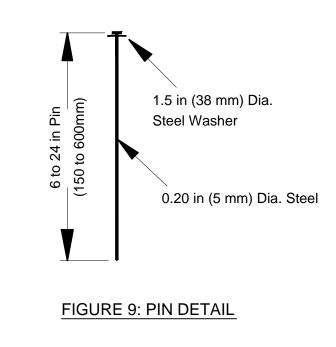
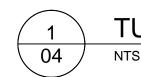
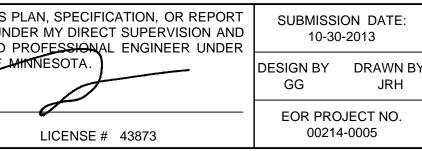


FIGURE 7: SIMULATED CHECK SLOT DETAIL



TURF REINFORCEMENT MAT DETAILS AND NOTES (TYP.)

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CITY OF ROCHESTER 201 4TH STREET S. E. ROCHESTER, MN

ROCHESTER, OLMSTEAD COUNTY, MINNESOTA

TRM DETAILS

SHEET 04 OF 09 SHEETS

TETON COURT POND REHAB.

CITY PROJECT NO. 2010-027 (J6606) STATE PROJECT NO.

